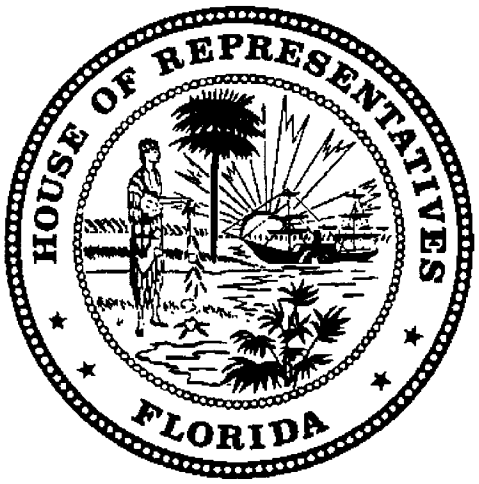


Spaceport & Technology Committee

Tuesday, March 7, 2006

2:00 PM to 4:00 PM

Room 12, HOB

MEETING PACKET

Allan G. Bense
Speaker

Bob Allen
Chair

The Florida House of Representatives

State Infrastructure Council

Spaceport & Technology Committee

Allan G. Bense
Speaker

Bob Allen
Chair

AGENDA

COMMITTEE ON SPACEPORT & TECHNOLOGY
March 7, 2006

1. CALL TO ORDER BY CHAIR

2. GENERAL OPENING COMMENTS BY THE CHAIR

Welcome and Opening Comments by the Chair.

3. AGENDA ITEMS

Receive presentations and workshop issues related to space business development, infrastructure, industry clustering, business incentives, education, research and development, technology and management.

Participants:

Mr. Lee Arnold
General Council
Office of Representative Tom Feeney
Washington, D.C.

Mr. Randy Berridge
President
Florida High Tech Corridor Council
Lake Mary, Florida

Mr. Brendan Curry
VP for Government Affairs
Space Foundation
Washington, D.C.

Mr. Adrian Laffitte
Director, Government Relations
Lockheed Martin
Cocoa Beach, Florida

Mr. Daniel LeBlanc
VP & Chief Operating Officer
Kennedy Space Center Visitor Complex
Delaware North Parks & Resorts at KSC, Inc.

Mr. Jim Frederick
Director, Space Systems
Raytheon
Clearwater, Florida

Dr. Gerry G. Meisels
Director of the Coalition for Science Literacy
Chairman of the Florida Coalition for Improving
Mathematics and Science Education
At the University of South Florida
Tampa, Florida

Mr. Bruce Melnick
VP of Boeing Florida Operations
The Boeing Company
Cocoa Beach, Florida

Mr. Billy Specht
Manager of Education
Kennedy Space Center Complex
Delaware North Parks & Resorts at KSC, Inc.

Ms. Linda Weatherman
President & CEO
Economic Development Commission of Florida's Space Coast
Rockledge, Florida

Mr. Joe Wright
Director of Programs
Launch Vehicles & Systems Enterprise
Honeywell AES
Clearwater, Florida

4. Committee members identify issues for future review and consideration.

5. Committee discusses future committee meetings; Chairman takes questions

6. Closing remarks by Chair.

Information Provided by:

Dr. Ben Goldberg, Pratt Whitney

I appreciate the opportunity to provide input for your consideration, and apologize for not being able to be there in person. My input today is divided into four areas:

1) The Pratt & Whitney Weekly Reader Insert Education Outreach activity - and associated augmentation potentials

Pratt & Whitney Rocketdyne has developed an education outreach activity that inspires youth toward careers in science and math. It has a specific focus for young ladies. The activity is partially funded by NASA under contract for an engine that supports the Vision for Space Exploration. The activity targets 4th graders. The NASA contract only funds development of the content (<$8,000) for what has developed into a four page insert for Weekly Reader magazine. We anticipate this will be a school year quarterly release (no summer issue) for multiple years - so three times per year in October, January and April. NASA funding is being used to develop the content for the first 3 Weekly Reader Supplements (2005/2006 school year) and associated Teacher's Guides and a Website (funding provides for a high school intern - which is consistent with our "by students - for students" approach).
P&WR funding is being used to pay for distribution of the first two Supplements - one for October 2005, one for January 2006 - we do not, as yet, have funding secured for the third Supplement. We are partnered with the Florida Space Research Institute as the host the of Website. We are also looking to partner with AIAA as part of this outreach activity, to have local members assist in teaching on the days the magazine is released - the exact scope is not finalized but is in work.

Total distribution for each Supplement is a nationwide audience of ~580,000 4th graders, in about 21,000 classrooms. One of the features of each Supplement is that a 4th, 5th or 6th grader will interview a Space figure of their choosing. Other features include articles, a timeline and games (science / space related). The inaugural issue request from our student was Sally Ride and we had a fifth grader do that interview. For the second issue we had a 7th grade student interview a designer of the Shuttle's Main Engines.

Proposed for your consideration: Florida could partner with P&W, NASA and FSRI for the April insert. This partnership could have two substantive components:

a) FSRI coordination of industry and teacher resources throughout the state, using the already available networks, to participate in the schools where the insert is distributed. These include schools in 153 cities in Florida, from Alachua to Zephyr Hills.

b) State funding of the distribution costs (~$35,000) for which P&W would center the insert on Florida's future as the U.S. center of Space Launch.

This would reach more than ½ million homes and include website companion articles / games. See attached potential cover (#3). Useful for both advertising, Florida aerospace message focus and education outreach.

2) Considerations for FCAT

Proposed for your consideration: Without changing any of the math, reading or other evaluation elements of this exam, the State could chose to prioritize the aerospace industry by centering the questions around aerospace issues. An example:

Existing word problem example: Tom and Betty each have four apples. Tom gives Betty two apples. How many apples does Tom have left?

New word problem example: Tom and Betty each have four astronaut helmets. Tom gives Betty two astronaut helmets. How many astronaut helmets does Tom have left?

This focus will be evident to students and teachers and should enable discussion around aerospace topics and fields as part of the test preparation activities. It could be a powerful tool for exciting students and recognizing Florida's aerospace interests.

3) Focus opportunities for Florida Education Outreach

As a parent of two children (11 and 18) it is not clear that math and science are focus areas for Florida's pre-college education outreach activities. Most studies indicate that, by the time students reach college it is too late to influence their careers toward math and science, so this gap is significant for a State focusing on aerospace opportunities.

A search of Florida Websites (key words Florida Education Outreach) revealed the following:

> Of the 15 sites hot-linked to the bureau of Family and Education Outreach www.firn.edu/doe/family/home0077.htm, only 1 had any mention (and that in the detailed web pages) of math (21st Century Community Learning Centers – says math in addition to reading). By contrast, several were specifically targeted to reading (e.g. Families Building Better Readers, Just Read Families) and several others specifically included a reading focus in their detailed web pages.

Assessment of the 2004 Safe Council Report also indicated a focus on high school and college.

A search on web sites for other states indicated similar lack of focus.

Proposed for your consideration: Many studies indicate it is not the lack of resources or programs, but a lack of knowledge of the availability of programs by potential users. Florida has the potential to take a national leadership role, and significantly affect the efficacy of local education outreach activities by creating a "Families for Better Math and Science", or "Its Just Math" etc... coordination activity. This should not be new programs, but an effort to coordinate existing ones, that makes a user friendly one-stop venue. The state could use the models and methods developed to promote reading as a template for the math and science areas.

4) Considerations for general industry involvement and associated needs

A brief study indicating the percentage of secondary and postsecondary students who come from in state might be valuable in determining whether the focus should solely be on secondary and postsecondary education, or whether the focus should include middle and high school as well. The loss of math and science students occurs during 4^{th}, 5^{th}, 6^{th} and 7^{th} grades according to numerous studies. Industry has focus on these students because of its understanding of the long term needs.

There does not appear to be a statewide focus within the state university system for aerospace. As such it may be difficult to gain national recognition, and consequent funding, research opportunities and national leaders in this area to come to the Florida system. Careful evaluation of the benefits and consequences of such focus may be appropriate. There are three areas of interest to all industry that may be worthy of further focus:

a) Intellectual property (IP) considerations between government, industry, and academia are often inhibiting to industry funded R&D activities, which provide approximately 60% of the U.S. R&D funding. FSRI initiated an approach to develop some common language for IP considerations between industry and academia. Further development along this path, to include the state activities, and uniformity within the state university system, may be of value.

b) There is significant potential for university systems to minimize capitol expenditures while maximizing capability through selected common use laboratories or facilities. The SERPL facility approach is one model, agreements for use of test or unique instrument capability at KSC or in-state industry test sites might be another viable avenue. Selection of the highest inducement equipment, facility or test capabilities might indicate the most advantages approach.

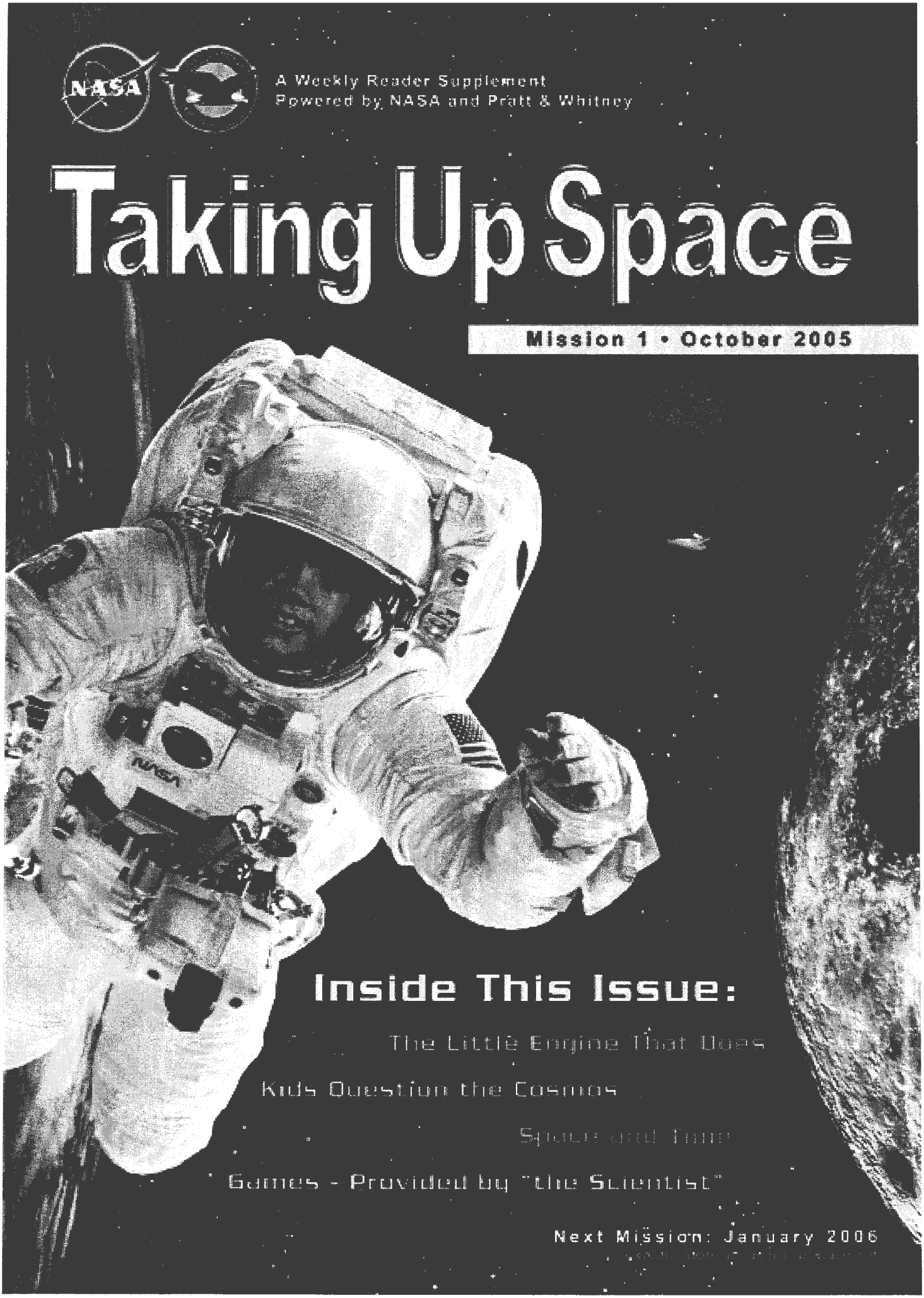
c) While state grants and tax structure items seem designed to assist industry it appears there is a potential innovative synergy with R&D that remains unexploited. The aerospace industry has significant difficulty implementing technology, so-called technology insertion. This is primarily due to the large costs of certification required for the high reliability systems, and the significant

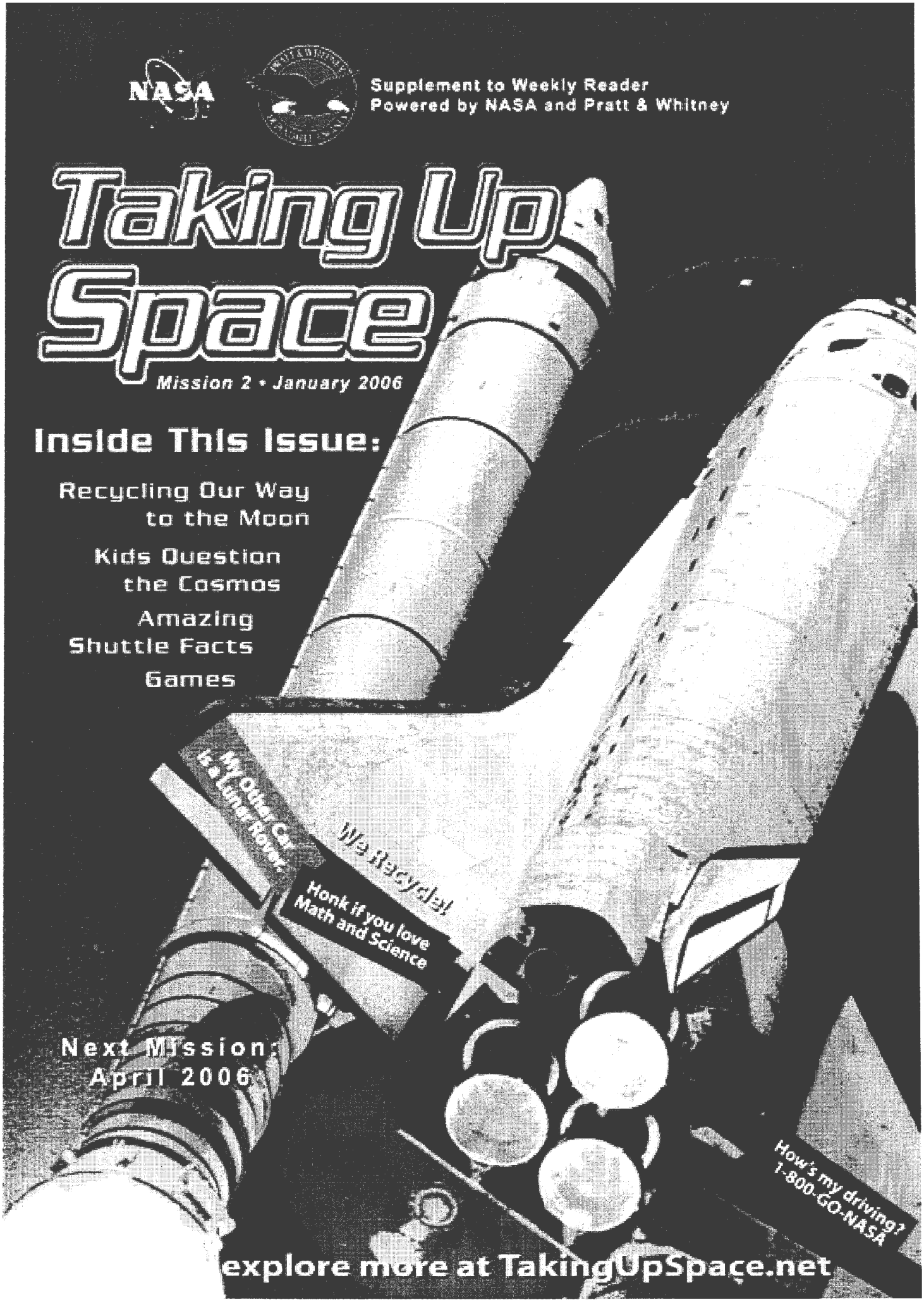
issues associated with unexpected results. The lack of technology insertion funding has, in some cases, precluded state-of-the-art technologies from being incorporated in today's systems. This has the potential to result in a reduced competitiveness for U.S. industry in the global market, or reduced missions / launches. The potential for the state to define technology insertion agreements with industry, that allow state return on investments over time, might be a substantial, and untapped space-industry growth incentive.

Each of these areas has the potential to affect college and post-secondary education efforts within the state, and the consequent ability of the state to attract and maintain high tech industries.

Although unforeseen circumstances precluded my attendance today I remain available to discuss these items or other items of interest at your convenience.

Ben Goldberg
Director
Engineering and Advanced Programs
Pratt Whitney


A Weekly Reader Supplement
Powered by NASA and Pratt & Whitney
Taking Up Space
Mission 1 • October 2005
Inside This Issue:
The Little Engine That Does
Kids Question the Cosmos
Space and Time
Games - Provided by "the Scientist"
Next Mission: January 2006


NASA
Supplement to Weekly Reader
Powered by NASA and Pratt & Whitney
Taking Up Space
Mission 2 • January 2006
Inside This Issue:
Recycling Our Way to the Moon
Kids Question the Cosmos
Amazing Shuttle Facts
Games
My other car is a Lunar Rover.
We Recycle!
Honk if you love Math and Science
How's my driving? 1-800-GO-NASA
Next Mission: April 2006
explore more at TakingUpSpace.net

Kennedy Space Center

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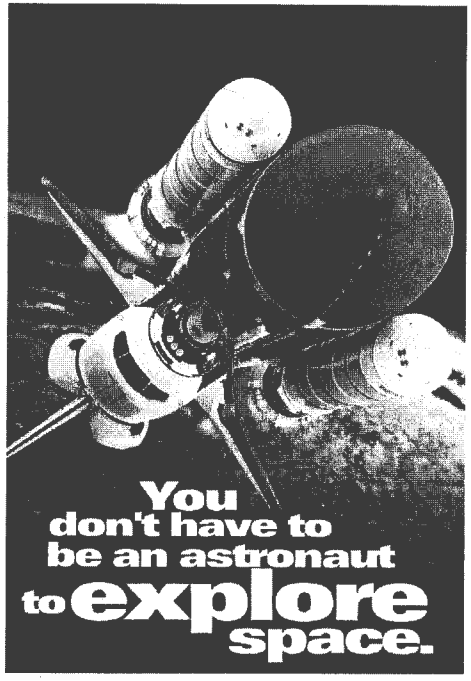

Presentation to:

The Florida House of Representatives

Spaceport & Technology Committee

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Delaware North Parks & Resorts

Daniel LeBlanc, Vice President and COO

Billy Specht, Manager of Education

DELAWARE NORTH PARKS SERVICES


Kennedy
Space
Center
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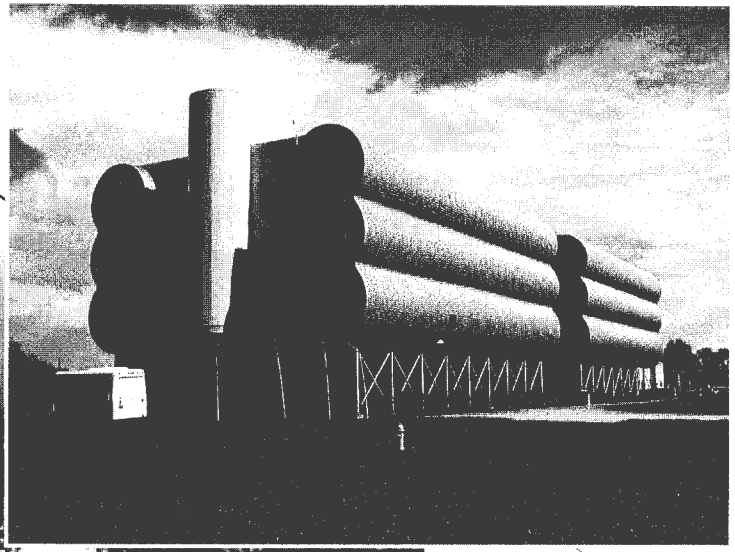
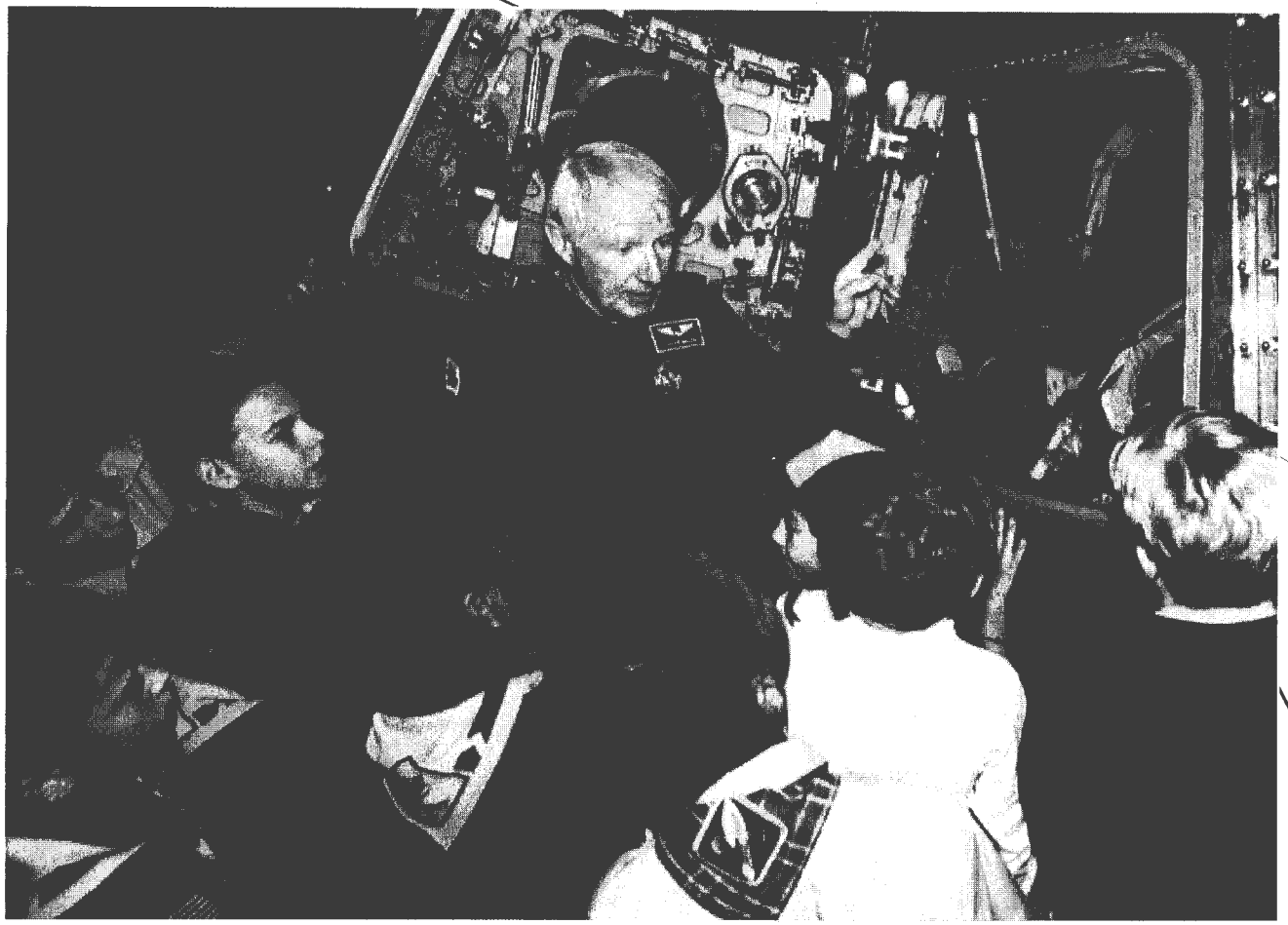
Astronaut Hall of Fame Museum



Educational Field Trip Program

- Field Trips
- Educator's Activity Guides
- Student Bus Tours and 3D IMAX Films
- Approximately 100,000 student visits per year
- Educators Study Pass Program

Our Mission:

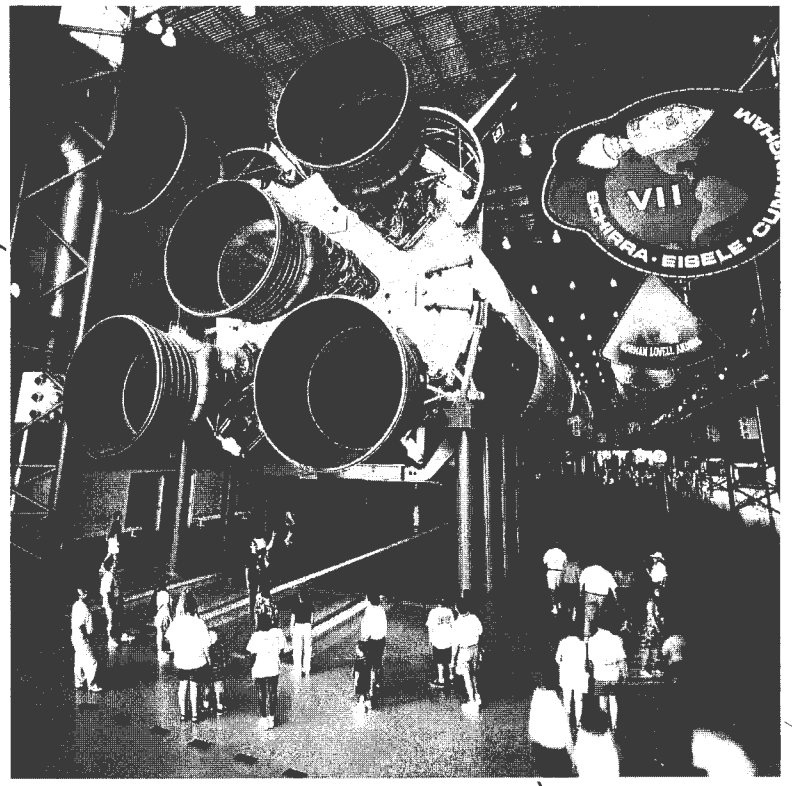


To Tell the NASA Story and Inspire all People to Support the Exploration of Space

Astronaut Encounter

Overnight Adventures

- **Visit KSC for a Sleep Under!**
- **Evening activities and events**
- **Program led by teachers and educators**

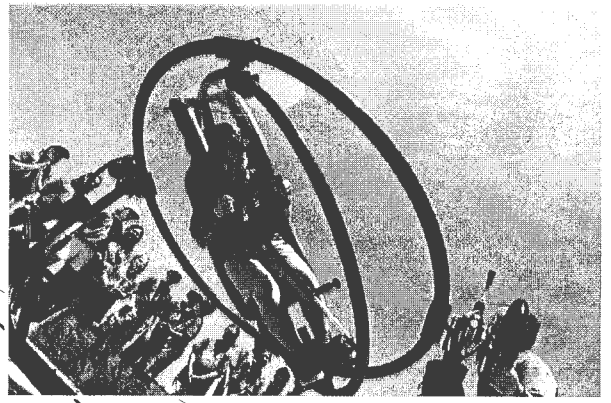


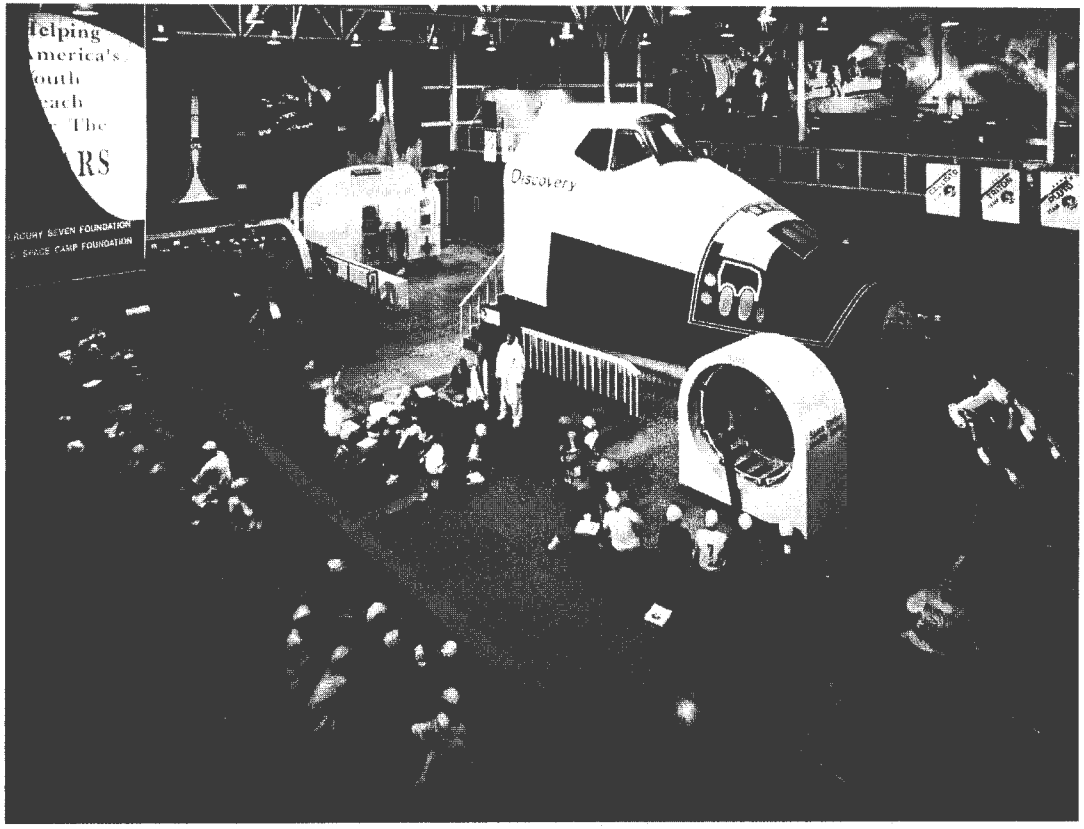
- **Meets Florida Sunshine State Standards**
- **6000 students in 2005**

Salute Programs

Camp Kennedy Space Center

- One Week Day Camp Programs
- Perform activities and ride simulations
- Taught by certified teachers and educators

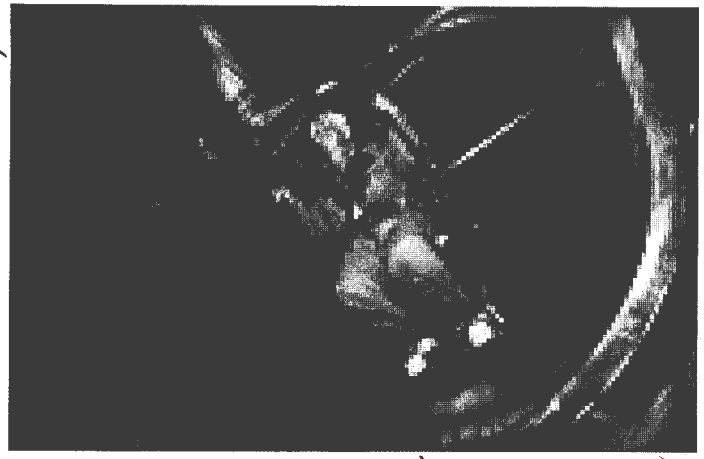




- Key Partnerships
- 2003 Relocated to AHOF
- 8th year of operation
- Approximately 1500 participants in 2005

Astronaut Training Experience (ATX)

- Train like an Astronaut
- Behind-the-scenes KSC tour
- Discuss Space Exploration with an Astronaut
- Full-scale Space Shuttle simulation

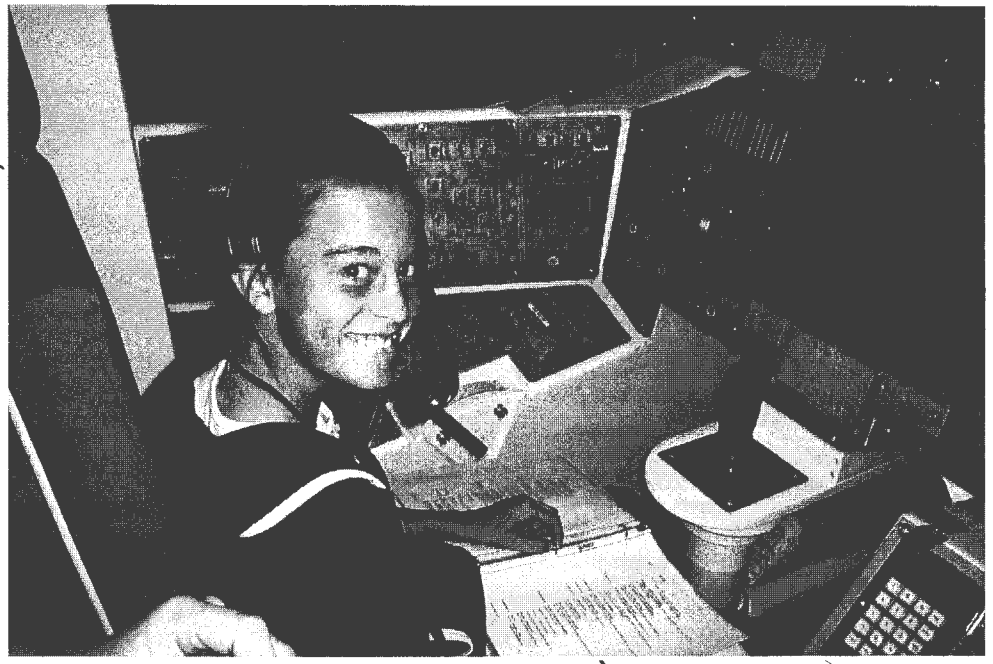


Brevard Space Week

- Original curriculum
- On-site science training for over 300 6th grade teachers
- Strategic Partnerships

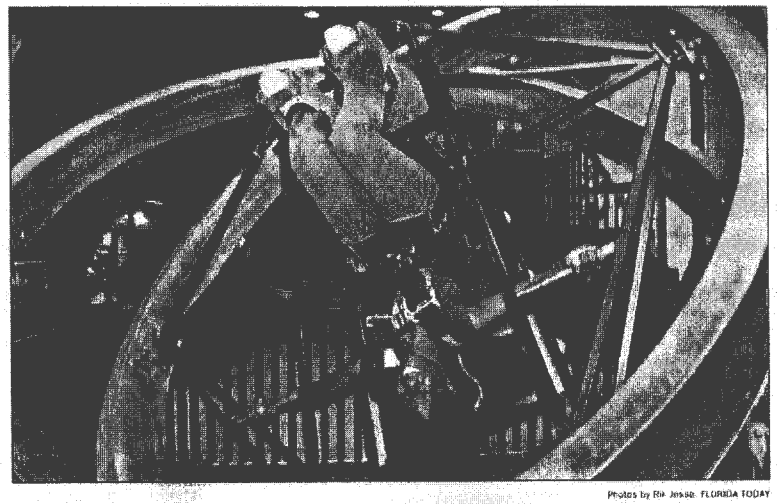
- 800 students per day
- Eight days of operation
- Interactive, informative, inspirational
- KSC Busses for transportation

Brevard BLAST



"Some would assume that in Brevard County, everybody's been out to the Space Center. For a lot of students who live right here, it's their first trip."

Ginger Davis, science resource teacher and a co-writer of the BLAST curriculum



Photos by Ric Jesse, FLORIDA TODAY

Spaced out. Brittany Toney, a seventh-grader at McNair Magnet School in Cocoa, tries her hand with the Multi-Axis Trainer Wednesday on the training floor at the Astronaut Hall of Fame in Titusville.

Program fuses space, school

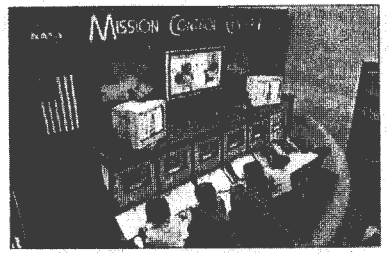
Schools weave BLAST into seventh-grade curriculum

BY BRITT KENNERLY
FLORIDA TODAY

TITUSVILLE — Her hair flying and eyes darting, Brittany Toney screamed into "space" this week at the U.S. Astronaut Hall of Fame.

As the chair into which she was strapped turned her upside-down, Brittany's shouts of "My head!" and "Stop this!" were joined by whoops from her best friend, Kiara Dukes, who yelled, "Keep your head back. If I did it my scary self, you can do it."

Every other McNair Magnet School seventh-grader had a chance to do it this week, too. Their up-close look at the intricacies of shuttle missions came during a day of BLAST — Brevard Learns About Science and Technology — activities at



Training time. Seventh-graders at McNair Magnet School in Cocoa simulate the role of NASA's Mission Control personnel at the Astronaut Hall of Fame in Titusville. The school is participating in BLAST (Brevard Learns About Science and Technology).

All Brevard School District seventh-graders — almost 6,000 of them — will hit the Hall this school year for a daylong BLAST immersion. What they learn there, from technology to teamwork and trivia, will be worked into science, math, social studies and English classes during the school year. All seventh-grade science teachers

lum Aug. 29.

Roles and simulated activities range from serving as a commander or crew member aboard an orbiter to the ride Brittany took in a tumbling space capsule via the gyroscope-like Multiple Axis Space Test Inertia Facility.

The BLAST program, including the curriculum, involves a

trict, Kennedy Space Center, NASA and Delaware North, which operates the Hall of Fame. School Board members had looked at the possibility of a local Challenger Learning

Off in space

Brevard School District seventh-graders will take part in BLAST activities at the U.S. Astronaut Hall of Fame's Astronaut Training Experience facility on weekdays, except for Thursday, until everyone has participated. The district will pay $39 per student.

ATX programs for those 14 and older are available by reservation on Thursday and Saturday and on other selected days as demand requires. Cost is $225 per person, including gear, lunch and a tour of Kennedy Space Center.

Call 449-4400 or visit **floridatoday.com** for information.

- **Strategic Partnerships**
- **Curriculum & Training**
- **5000 7th grade students & teachers**
- **Full-day experience**
- **Discuss Teamwork, Space Exploration, Careers**

Kennedy Space Center

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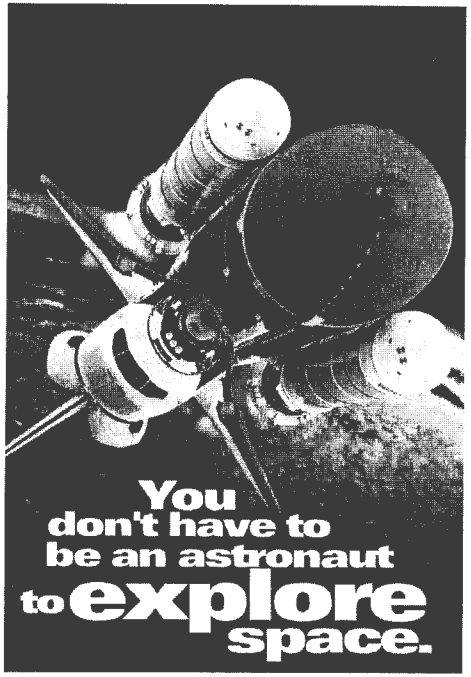

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